

ETHANOL BLENDED PETROL PROGRAMME

“To achieve blending levels for delivering multiple outcomes such as Environmental benefits, Forex savings and Value addition in the economy”

EBP PROGRAMME

VISION

- **Achieve capacities to enable conversion of surplus molasses and sugar into ethanol for blending with fuel**

GOAL

- **To achieve 10% blending targets**

PRESENTLY

- **Targets to achieve 5% blending**

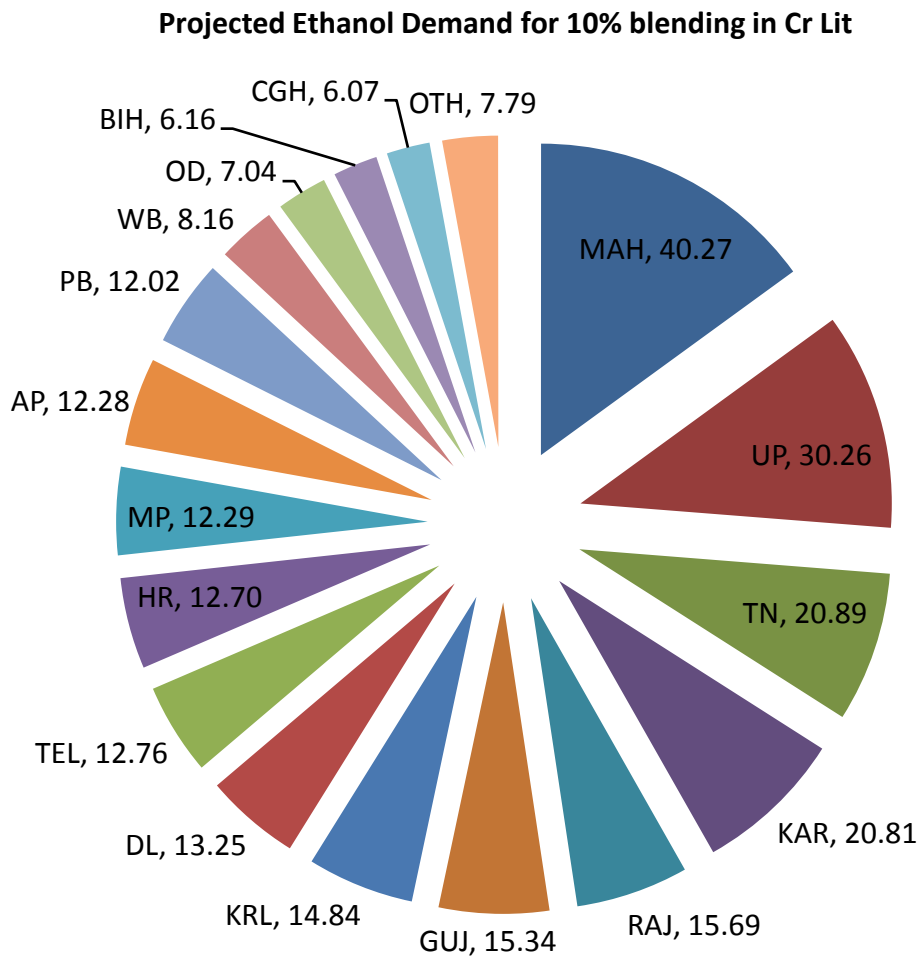
STAKE-HOLDERS

Stake Holder	Objective/Purpose/Challenges
State Government	<ul style="list-style-type: none">• Potable liquor. Excise revenue. Regulate use/distribution of molasses. Sugar & Cane policies.
Sugar Industry	<ul style="list-style-type: none">• Produce Sugar, Molasses, Alcohol, Ethanol.• Cane dues. Liquidity problem.
Cane Farmers	<ul style="list-style-type: none">• Income, Livelihood, Cane due Arrears.
OMC's	<ul style="list-style-type: none">• Users of Ethanol.
Potable Liquor Sector	<ul style="list-style-type: none">• Grain and Molasses based.
Chemical Industry	<ul style="list-style-type: none">• Molasses based alcohol
Central Government	<ul style="list-style-type: none">• Policy balance, Farmers livelihood, Industrial viability

AGGREGATE DEMAND

Sector	Quantity in Crore Litres
POTABLE LIQUOR	100
CHEMICAL	60
ETHANOL 10% (SS 2015-16)	268
TOTAL	428

Ethanol Demand Profile – 15-16



State	Projected Ethanol Demand	%age of Total Demand
MAH	40.27	15%
UP	30.26	11%
TN	20.89	8%
KAR	20.81	8%
RAJ	15.69	6%
GUJ	15.34	6%
KRL	14.84	6%
DL	13.25	5%
TEL	12.76	5%
HR	12.70	5%
MP	12.29	5%
AP	12.28	5%
PB	12.02	4%
WB	8.16	3%
OD	7.04	3%
BIH	6.16	2%
CGH	6.07	2%
OTH	7.79	3%
TOTAL	268.62	100%

Total Projected Ethanol demand for SS15-16 is 268.62crore lit for 10% blending in MS

AGGREGATE SUPPLY CAPACITIES

Product	Distillation Capacities (including Standalone)
ALCOHOL (INCLUDING ETHANOL)	476 Crore Litres
ONLY ETHANOL	224 Crore Litres
MOLASSES	12 Million MT
SURPLUS SUGAR	2.5 Million MT
TOTAL ALCOHOL BASED ON STOCKS	450 Crore Litres

Inference

No Molasses Shortage

B Heavy Molasses


Divert Sugar into Alcohol/Ethanol

ROADMAP FOR 10% BLENDING

Immediate Strategy

- All ethanol producers to participate
- Total No. of ethanol suppliers : 156 (including 23 standalone).
- Presently 90 units are participating.

Medium Term (One Year)

- 21 Distilleries with Sugar Industries produce only alcohol (51.60 Cr. Lit.) 
- Should upgrade to Ethanol capacities.
- Investment required: Rs. 170 Cr. Access SDF finances.

Long Term (3-4 Years)

- 156 out of 529 units can produce alcohol.
- Others to integrate.
- Existing distilleries can add capacities.
- Access SDF.

List of sugar mills having distilleries without acilities for ethanol

Sl. No.	State	No. of sugar mills with distillery	Capacity
			crore litres /annum
1	Gujarat	Shri Bileshwar Khand UKSML, Kodinar, Junagadh	1.33
2	Kerala	The Coop. Sugars Ltd., Menonpada, Palakkad	0.27
3		The Travancore Sugars Ltd., Thiruvalla	0.28
		Total	0.55
4	Odisha	Sakthi Sugars Ltd., Koriyan, Dhenkanal	0.90
5		The Aska Coop. Sugar Ind. Ltd., Nuagam, Ganjam	0.30
6		The Jeypore Sugar Co. Ltd., Rayagada	0.17
		Total	1.37
7	Punjab	Gurdaspur Coop. Sugar Mill, Gurdaspur	0.61
8		Nakodar Coop. Sugar Mill, Nakodar	0.90
9		A B Sugar Mills, Dasuyan, Hoshiarpur	0.90
		Total	2.41
10	Rajasthan	Ganganagar Sugar Mill, Shriganganagar	0.63
11		Mewar Sugar mills, Bhupalsagar, Chittorgarh	0.51
		Total	1.14
12	Tamil Nadu	S V Sugar Mills, Kanchipuram	2.30
13		Sakthi Sugars Ltd., Bhavani, Erode	3.60
14		Shri Ambika Sugars, Vridhachalam	2.10
15		Aruna Sugars, Pennadam, South Arcot	1.80
		Total	9.80
16	U.P.	Kisan Sahkari Chini Mills, Anoopshahr, Bulandshahr	7.20
17		Kisan Sahkari Chini Mills, Ghosi, Mau	4.80
18		Kisan Sahkari Chini Mills, Kaimganj, Farukhabad	9.00
19		Kisan Sahkari Chini Mills, Nanauta, Saharanpur	5.30
20		Kisan Sahkari Chini Mills, Nanpara, Bahraich	7.20
		Total	33.50
21	Uttarakhand	Bazpur Coop. Sugar Mills, Bazpur	1.50
Total			51.60



PRESENT BLENDING PERFORMANCE

States	MS Projected Sales for SS 14-15	Tendered Quantity	Finalized Quantity	Finalized Qty as a %age of Tendered quantity	Prorated Quantity as on 31.07.15	Received Quantity as on 31.07.15	All figures in Crore Liters		
							% of Prorated quantity	Blending %age achieved	Projected Quantity by closure of current tender
Maharashtra (10%)	320.7	32.1	22.3	69.5%	13.3	11.0	82.8%	5.1%	16.5
UttarPradesh (10%)	238.0	23.8	21.5	90.4%	13.7	14.2	103.9%	9.0%	21.3
TamilNadu	215.5	10.8	2.9	27.3%	1.8	0.0	0.0%	0.0%	1.8
Karnataka (10%)	161.1	16.1	10.2	63.4%	5.5	2.8	51.0%	2.6%	4.2
Rajasthan	142.7	7.1	2.5	34.7%	1.4	0.4	26.0%	0.4%	0.5
Gujarat	135.0	6.8	0.5	7.5%	0.2	0.2	111.6%	0.3%	0.4
Kerala	131.2	6.6	0.2	3.0%	0.0	0.0	0.0%	0.0%	0.0
Delhi	117.1	5.9	3.3	56.4%	1.8	3.0	168.0%	3.9%	4.5
Haryana	112.3	5.6	4.6	82.6%	2.8	0.9	31.1%	1.2%	1.3
AndhraPradesh	106.2	5.3	5.3	99.8%	4.0	3.3	80.8%	4.6%	4.9
Punjab	101.0	5.0	1.9	37.6%	1.1	1.0	87.8%	1.4%	1.4
MadhyaPradesh	100.3	5.0	0.3	6.0%	0.1	0.0	1.6%	0.0%	0.0
Telangana	99.2	5.0	4.4	88.4%	3.8	1.5	40.7%	2.3%	2.3
WestBengal	78.0	3.9	0.0	0.0%	0.0	0.1		0.1%	0.1
Odisha	58.7	2.9	0.0	0.0%	0.0	0.0		0.0%	0.0
Jharkand	51.1	2.6	0.0	0.0%	0.0	0.0		0.0%	0.0
Chattisgarh	50.8	2.5	0.0	0.0%	0.0	0.0		0.0%	0.0
Bihar (10%)	48.4	4.8	0.6	11.4%	0.3	0.2	73.9%	0.8%	0.4
Uttarakhand (10%)	24.6	2.5	1.5	59.4%	0.8	0.0	3.8%	0.2%	0.0
Goa (10%)	17.1	1.7	1.1	65.3%	0.7	0.2	33.5%	2.1%	0.4
Himachal Pradesh	0.0	0.0	0.0		0.0	0.0			0.0
Total for Notified States	2309.0	155.9	83.1	53.3%	51.3	38.8	75.7%	2.5%	60.0
Other States	382.5	-27.8	0.0	0.0%	0.0	0.0		0.0%	0.0
Total PAN India	2691.5	128.2	83.1	64.8%	51.3	38.8	75.7%	2.2%	60.0

STRATEGY WORKSHEET FOR SEASON 2015-16

ETHANOL / ALCOHOL

quantities in crore litres

Sl. No.	States	Annual Capacity						Total capacity (Alco+Eth)	Availability		Ethanol for blending			Balance capacity for alcohol
		Sugar Mills		Stand-alone		Total			Req. of alcohol for potable liquor	Capacity available for ethanol	Req. at 10% blending	Req. as per 5% / 10% blend profile	Allocation @ 80% of avbl. Capa.	
		Alcohol	Ethanol	Alcohol	Ethanol	Alcohol	Ethanol							
1	2	3	4	5	6	7	8	9	10	11	12	13	14	15
1	Andhra Pradesh		10.80		1.80		12.60	12.60	3.97	8.63	12.28	6.14	6.90	0.00
2	Bihar	4.59	3.90	1.35	3.24	5.94	7.14	13.08	11.22	1.86	6.16	6.16	1.49	0.00
3	Chhattisgarh			3.60		3.60		3.60	2.05		6.08	3.04		1.55
4	Delhi										13.25	6.63		
5	Goa			0.54		0.54		0.54	0.12		2.32	2.32		0.42
6	Gujarat	1.33	7.86	6.49	2.25	7.82	10.11	17.93	0.00	10.11	15.34	7.67	8.09	7.82
7	Haryana		0.75	8.50		8.50	0.75	9.25	2.04	0.75	12.70	6.35	0.60	6.46
8	Himachal Pradesh			1.86		1.86		1.86	0.55		0.09	0.05		1.31
9	Jharkhand										3.00	1.50		
10	Jammu & Kashmir			3.19		3.19		3.19	1.01					2.18
11	Karnataka		29.55	23.38	1.65	23.38	31.20	54.58	21.50	31.20	20.02	20.02	24.96	1.88
12	Kerala	0.55		2.64		3.19		3.19	2.68		14.84	7.42		0.51
13	Madhya Pradesh			35.80		35.80		35.80	5.83		12.30	6.15		29.97
14	Maharashtra		62.10	4.82	13.05	4.82	75.15	79.97	13.87	66.10	40.27	40.27	52.88	0.00
15	Odisha	1.37		0.65		2.02		2.02	3.37		7.04	3.52		
16	Punjab	2.41	1.20	24.99		27.40	1.20	28.60	2.22	1.20	12.02	6.01	0.96	25.18
17	Rajasthan	1.14		8.72		9.86		9.86	5.51		15.69	7.85		4.35
18	Tamil Nadu	9.80	9.60	14.86		24.66	9.60	34.26	5.79	9.60	20.89	10.45	7.68	18.87
19	Telangana		4.05		0.90		4.95	4.95	2.83	2.12	12.76	6.38	1.70	0.00
20	Uttar Pradesh	33.52	65.76	44.03	4.23	77.55	69.99	147.54	16.00	69.99	30.26	30.26	55.99	61.55
21	Uttarakhand	1.50	0.90	8.42		9.92	0.90	10.82	0.81	0.90	2.38	2.38	0.72	9.11
22	West Bengal			1.55		1.55		1.55	7.33		8.16	4.08		
23	Daman & Diu			1.72		1.72		1.72	0.02					1.70
24	Puducherry			1.62		1.62		1.62	0.10					1.52
	Req. of Mol for Chem & Potable (remaining part) (60 cr. L for Chem. & 10 for potable)								7.81					-7.81
	Total	56.21	196.47	198.73	27.12	254.94	223.59	478.53	116.63	202.46	267.85	184.65	161.97	166.57

contd..

STRATEGY WORKSHEET (MOLASSES)

Sl. No.	States	Total capacity (Alco+Eth) crore litres	Req. of alcohol for potable liquor	Capacity available for ethanol	Allocation of ethanol @ 80% of avbl. capa.	Balance capacity for alcohol	Q. mol. Req for Pot. Alco	Q. mol. Req for Eth	Total mol. req. (8+9)	Total Mol. Prodn.	Surplus / shortfall (11-10)	Req. of B-Heavy molasses	Prodn. Of alcohol from B-heavy
							lakh tonnes	lakh tonnes	lakh tonnes	lakh tonnes	lakh tonnes	lakh tonnes	lakh tonnes
1	2	3	4	5	6	7	8	9	10	11	12	13	14
1	Andhra Pradesh	12.60	3.97	8.63	6.90	0.00	1.65	3.03	4.68	2.80	-1.88	2.50	7.75
2	Bihar	13.08	11.22	1.86	1.49	0.00	4.68	0.65	5.33	2.90	-2.43	2.75	8.53
3	Chhattisgarh	3.60	2.05			1.55	0.85		0.85	0.45	-0.40		
4	Delhi												
5	Goa	0.54	0.12			0.42	0.05		0.05	0.05	0.00		
6	Gujarat	17.93	0.00	10.11	8.09	7.82	0.00	3.55	3.55	5.00	1.45		
7	Haryana	9.25	2.04	0.75	0.60	6.46	0.85	0.26	1.11	2.90	1.79	1.00	3.10
8	Himachal Pradesh	1.86	0.55			1.31	0.23		0.23		-0.23		
9	Jharkhand												
10	Jammu & Kashmir	3.19	1.01			2.18	0.42		0.42		-0.42		
11	Karnataka	54.58	21.50	31.20	24.96	1.88	8.96	10.95	19.91	19.50	-0.41	2.00	6.20
12	Kerala	3.19	2.68			0.51	1.12		1.12		-1.12		
13	Madhya Pradesh	35.80	5.83			29.97	2.43		2.43	1.68	-0.75	2.50	7.75
14	Maharashtra	79.97	13.87	66.10	52.88	0.00	5.78	23.19	28.97	38.00	9.03		
15	Odisha	2.02	3.37				1.40		1.40	0.25	-1.15	1.50	4.65
16	Punjab	28.60	2.22	1.20	0.96	25.18	0.93	0.42	1.35	2.50	1.15	3.00	9.30
17	Rajasthan	9.86	5.51			4.35	2.30		2.30	0.03	-2.27	2.50	7.75
18	Tamil Nadu	34.26	5.79	9.60	7.68	18.87	2.41	3.37	5.78	6.15	0.37		
19	Telangana	4.95	2.83	2.12	1.70	0.00	1.18	0.75	1.92	1.45	-0.47	2.00	6.20
20	Uttar Pradesh	147.54	16.00	69.99	55.99	61.55	6.67	24.56	31.22	36.70	5.48	1.60	4.96
21	Uttarakhand	10.82	0.81	0.90	0.72	9.11	0.34	0.32	0.65	1.65	1.00		
22	West Bengal	1.55	7.33				3.05		3.05	0.04	-3.01	2.50	7.75
23	Daman & Diu	1.72	0.02			1.70	0.01		0.01		-0.01		
24	Puducherry	1.62	0.10			1.52	0.04		0.04	0.25	0.21		
	Req. of Mol for Chem & Potable (remaining part) (60 cr. L for Chem. & 10 for potable)		7.81										
	Total	476.51	116.63	202.46	161.97	166.57	48.60	71.04	146.38	122.30	-24.08	23.85	73.94

1	Shortfall of molasses	24.10Lakh Tonnes	6	Req. of B-Heavy molasses for the said	
2	Production of alcohol @ 240 l/t	57.84Crore Litres		qty. of 16.12 crore litres @ 310 l/t	5.20L T
3	Req. of b-Heavy molasses for the said				
	qty. of 57.84 crore litres @ 310 l/t	18.66Lakh Tonnes	7	Total B-Heavy molasses required	23.86L T
4	Reduction in production of final molasses				
	due to diversion of B-Heavy molasses (@ 36%)	6.72Lakh Tonnes	8	Total sugar sacrificed	12.33L T
5	Production of alcohol @ 240 l/t	16.12Crore Litres			

SUMMARY

[Allocations.xlsx](#)

Summary of State-wise requirement and allocation of ethanol

Sl. No.	States	Sugar mills manufacturing ethanol		Standalone Ethanol Unit		Total		Depots of OMCs		Quantity allocated	
		No.	Capacity	No.	Capacity	No.	Capacity	No.	Requirement	No. of Depots allocated	Quantity allocated (crore litres)
			(crore litres)		(crore litres)		(crore litres)		of ethanol		
									(crore litres)		
1	Andhra Pradesh	10	10.80	2	1.80	12	12.60	15	12.28	15	11.83
2	Bihar	5	7.42			5	7.42	6	6.16	2	1.49
3	Chhattisgarh							6	6.07		
4	Delhi							3	13.25	3	13.25
5	Goa							3	2.32	3	2.32
6	Gujarat	8	7.86	2	2.25	10	10.11	14	14.64	9	8.09
7	Haryana	1	0.75			1	0.75	8	12.70	8	11.32
8	Himachal Pradesh							1	0.10	1	0.10
9	Jharkhand							6	3.00		
10	Karnataka	16	29.55	1	1.65	17	31.20	18	20.02	18	20.02
11	Kerala							5	14.84		
12	Madhya Pradesh							15	12.54		
13	Maharashtra	51	62.10	12	13.05	63	75.15	26	39.81	26	39.81
14	Odisha							8	7.04		
15	Punjab	1	1.20			1	1.20	10	11.25	1	0.96
16	Rajasthan							14	15.87		
17	Tamil Nadu	8	9.60			8	9.60	11	20.18	6	7.68
18	Telangana	4	4.05	1	0.90	5	4.95	7	12.76	7	12.46
19	Uttar Pradesh	28	65.76	5	4.23	33	69.99	32	30.26	32	30.26
20	Uttarakhand	1	0.90			1	0.90	3	2.38	3	2.38
21	West Bengal							13	8.16	0	
	Total	133	199.99	23	23.88	156	223.87	224	265.63	134	161.97

INTER-STATE MOVEMENT

Ethanol supplying State-wise position

Sl. No.	Supplying State	Supplies of ethanol		Receiving State	Quantity (crore litres)
		Within State	Out-side State		
1	Andhra Pradesh	6.90			
2	Bihar	1.49			
3	Gujarat	8.09			
4	Haryana	0.60			
5	Karnataka	20.02	4.94	A.P.	4.94
6	Maharashtra	39.81	13.08	Telangana	10.76
				Goa	2.32
7	Punjab	0.96	0.00		
8	Tamil Nadu	7.68	0.00		
9	Telangana	1.70	0.00		
10	Uttar Pradesh	30.26	25.73	Delhi	13.25
				Haryana	10.72
				HP	0.10
				Uttarakhand	1.66
11	Uttarakhand	0.72	0.00		
	Total	118.23	43.75		43.75

NEXT STEPS

- All Ethanol suppliers to come on grid.
- Existing alcohol units to upgrade to ethanol.
Access SDF.
- Rationalise trade barriers.
- Sugar Mills to Create/Expand capacities for ethanol/alcohol.

THANK YOU